

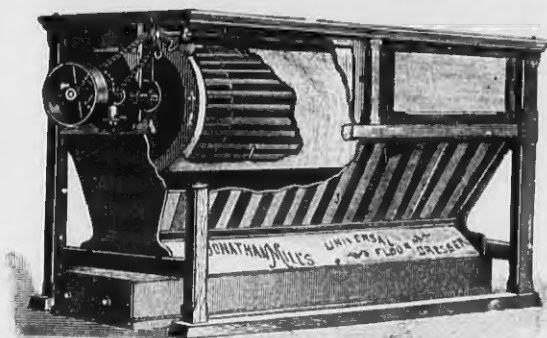


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MILWAUKEE, MAY, 1887.

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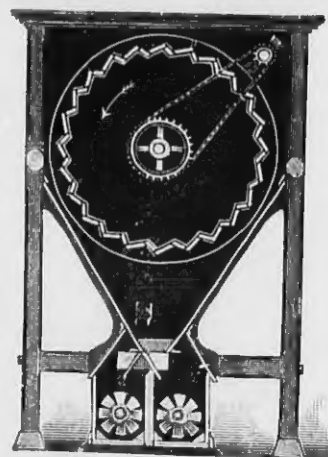
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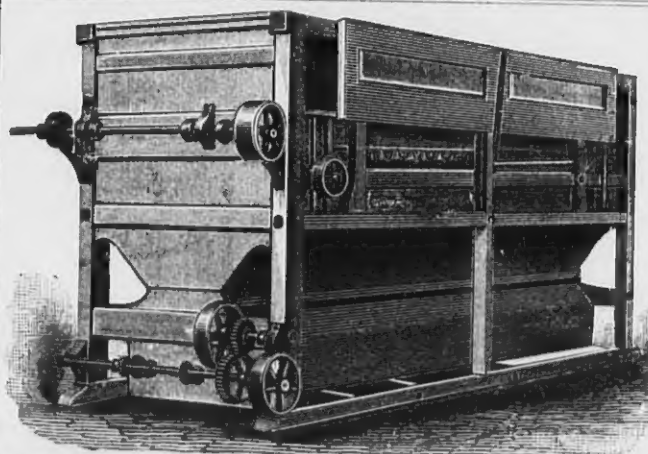
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see this machine and its work.

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THE WISCONSIN MILLERS' ASSOCIATION.

In response to the call issued some time ago a number of Wisconsin millers met at the Plankinton House at 2.30 o'clock P. M., April 19th. The present officers hold over for another year. The milling press was represented by E. H. Cawker for THE UNITED STATES MILLER and Mr. Turner for the *Northwestern Miller*. It is quite probable that many more millers would have been present if it had not happened that the reports came in that Hon. Alexander Mitchell was dead. As soon as this report was received the meeting adjourned. The following is the report of the secretary in full.

MR. PRESIDENT AND GENTLEMEN: In calling you together at this time, being the day for our regular annual meeting, it is not so much for the purpose of transacting business of financial importance, as it is for the purpose of keeping up a State Organization, ready to meet any emergency that may arise. Our books now show a membership of 55 firms, representing 322½ units of capacity. Six firms, representing 15 units of capacity, have joined us this year, under the resolution adopted by the Millers' National Association, at its last meeting, admitting members on the basis of \$5 per unit capacity. The balance of the membership are those who have paid in full the last assessment levied by the National Association Jan. 31st, 1883. In case another assessment should be levied, 10 firms or mills, representing 61 units, would not respond, for the reason that four mills, representing 19 units, have been torn down, all of them in Neenah and Menasha. Three mills, representing 22 units, have been burned and not rebuilt. Three firms, representing 20 units, have retired from the milling business, which would leave our membership, subject to assessment, comprising 45 firms with 261½ units of capacity.

The cost of membership since the settlement of the Cochrane, Denchfield and Smith litigations, has been comparatively nothing. No assessments have been levied for four years. All matters threatening the milling industry, such as claims for infringement of patents, obnoxious laws, rules and regulations pertaining to exports, have been taken care of and provided for by the constant care and attention of the Executive Committee of the National Association; in fact, the milling industry has been relieved entirely from any and all vexatious litigation. Whenever our members have been threatened or called upon by claimants for infringement or royalties, they have simply turned the

business over to the Executive Committee, and given the matter no further thought.

One of the most, if not the most important, result accomplished by the Committee, has been the settlement, so far as members are concerned, of all patents of whatever name or nature, pertaining to the mechanical construction of roller mills. The manufacturers have been put in the position that requires that they shall defend and protect all roller mills of their manufacture. The four concerns, composing the Consolidated Roller Mill Co., owning and controlling a large number of patents, have arranged with the National Executive Committee, whereby every member of the National Association, using roller mills of any make, is entirely released from all claims owned by the Consolidated Co. An arrangement was also consummated with six other roller mill manufacturers, whereby they obligate themselves to defend their machines from all claims for royalties, infringements, etc. These arrangements, I think, will set at rest, for all time, so far as our members are concerned, any litigation upon the mechanical construction of roller mills.

When we realize the fact that patents on roller mills are numbered by the hundreds, the validity of which can only be tested by the courts, and the further fact that heretofore manufacturers have been perfectly willing that the miller or the user should pay the expense of testing their validity, we can appreciate the value in securing a settlement of this whole matter, without any expense to the association. The accomplishment of such an undertaking is only possible by means of organized power.

It seems to have become quite fashionable of late for some of the milling papers and their correspondents to decry the value of the work and efforts of the association, as now constituted, but no complaint, within my knowledge, has ever come from any member of the Association, but is generally made by some miller outside of the Association, not entitled to its benefits, or by some manufacturer, whose desire is, to put machinery upon the market, regardless of infringements of patented devices used in its construction.

We all know the milling business, at the present time, is in a state of depression never before experienced, and the question arises "What can be done in our organization to better the condition of affairs?" In order to accomplish the largest amount of good at the least possible expense, every miller, not only in this, but in every other State, should become a member of his State Association.

The fees, at present, for membership, are comparatively nothing. The benefits to be derived, if millers will only give their time and meet together at least once each year in council, ought to be of great value to the milling interest. Why it is that millers, particularly those in the smaller towns, have been so loth to meet in council, I have never been able to understand, but that such is the fact is shown by experience. Is it not possible to bring into our membership every miller in the State of Wisconsin? This is what ought to be, and the "How to do it" is worthy of your consideration.

You will be called upon to-day to elect a President, two Vice Presidents, Secretary and Treasurer, and an Executive Committee of four. Also a representative of the State upon the Executive Committee of the National Association. Your Secretary has represented this Association upon the National Executive Board since the meeting at Buffalo in '77, a service of ten years. This has been a long service, and it may be advisable and for the best interest of the Association to select some one else to fill this responsible position; one of the necessary qualifications of which will be an unlimited amount of backbone, ready to meet any emergency, and to decide at once upon the merits of any case that may be presented.

While the condition of our finances are not flattering, I do not deem it necessary to levy an assessment at this meeting, although we are behind a small amount on our dues to the National Association; yet the need for money by that Association is not pressing, consequently it will be time enough to make the assessment when the money is needed.

Respectfully submitted.

S. H. SEAMANS, Secretary.
Milwaukee, April 19th, 1887.

SHORT SYSTEM MILLING DEFINED.

R. JAMES ABERNATHEY.

As I have before said in these columns, it has been clearly demonstrated that the operators of the short system of milling obtain as good yields on the same kind and quality of wheat as are obtained by any other system of milling. That is being proven by every-day practice. Arguing from a logical standpoint, I am inclined to the belief that with equal care and management a well-arranged short system mill will give a better yield than an elaborately arranged elongated mill. The reasons for that belief are quite obvious. The more any kind of material is handled, the greater the waste. Even a piece

of gold coin wastes by long and continuous handling. The numerous and long-continued handling causes an imperceptible but material waste. So also there is a much greater waste by evaporation caused by the many drying-out processes to which the material is subjected in its long, tedious and tortuous route, which leaves the flour unnaturally dry; and thus robbed of natural moisture, which cannot be replaced by artificial methods, the bread made of it dries out too quickly, as is so often complained of by good housewives, who are after all the real arbiters as to the merits of flour. That complaint is never made against flour made by the short system, for the reasons above given.

Reasoning naturally from one step to another, we are brought to the question of how quickly to do the work. Now I know the work is being done thoroughly and well in many cases with two breaks only on wheat. That is an incontrovertible fact. With practical business men one fact is worth ten thousand theories and bare assertions. For all that there are many men who assert that it can not be done in that way. There are just two reasons why such assertions are made, and these are that they are dictated by supposed business policy or interest, or else those who make them are entirely ignorant of existing facts. Now if the first reason causes the assertion, they do not want to know anything about the facts; if the last reason is the one, then a knowledge of the facts may or may not change the mind of the asserter, the effect depending altogether on the kind of a man he is. It often occurs that the most ignorant men are the most positive and pompous, and I do not believe any question of public interest ever yet discussed has brought out such a marvelous array of that kind of talent as has been developed on the elongated side of the short system discussion. It seems to me that every man who can wriggle his ears with the vim and energy of his ancestral prototypes has felt called upon to wield his pen against the short system and in favor of the elongated system. I cannot account for it except that once upon a time, as is related, one of the aforesaid ancestors felt called upon to rebuke its rider, and I suppose the disposition to put on airs and appear important was transmitted and became hereditary. But the perplexing part of it is how so many of them could become editors of mill-furnishers' private organs at this time. I suppose, though, the time and occasion demand that kind of talent for that purpose.

In relation to the number of breaks I always meet the assertions above referred to with facts, but now and then I meet a doubting Thomas who thinks he must have at least three breaks on wheat, that is, he must have what is called a "first break." It is not convenient to show him actual work, so I meet him in this wise. I say to him it is possible for those men to be right and for me to be wrong, but allowing that to be so, why not give my views the benefit of the doubt and try to save your money? Go right along and fit up your mill with the two breaks as I propose, then, if I am mistaken, all you will have to do will be to add the first break and attachments, as it costs no more to do it afterward than at first, because no part of the programme is disturbed or changed in any way. You simply put the machinery in

and connect it. That phase of the case catches them and, of course, settles it and saves their money. That is just the light in which any miller who contemplates changing his mill should view the situation. Whether I do so or not, they should regard the objection to the two-break system honest, though possibly mistaken, and conclude to try the two-breaks first and then, if it be found necessary to add a first break, the cost will be just the same in the end. If it is not needed, then the cost will be saved.

The theory of the two-break system is to get the work done quickly, that is to say get rid of the bran quickly along with the other impurities. The flour can then be dressed clearer and be whiter, and that is all that is required of flour in these times; it must be white and clear. Briefly described, my ideal short system is, say for a 50-barrel mill, 3 double sets of rollers, 4 centrifugals or short round reels of other kinds, and 4 to 6 short scalpers with the necessary cleaning machinery to clean the wheat thoroughly. An outfit of that kind will cost less than two-thirds of an average elongated outfit and will average better in results. For old mills to be remodeled it often occurs, with what machinery they already have, that less than half the amount demanded by elongated mill-furnishers will fit them up in good style on the short system plan.—*Milling World*.

ADULTERATION OF FLOUR AND MEAL.

By Prof. H. C. White, of the State University, Georgia.

It is very fortunate that these universal and important articles of food offer but little temptation or opportunity to adulteration. Bad flour is about as cheap as any adulterant that could safely be mixed with it, and good flour has certain definite and well-known characteristics which protect it from this abuse. Of course, gross sophistication is possible. It is asserted that flour is sometimes adulterated with kaolin or other white clays, soapstone and similar mineral matters. This is hardly true. It certainly is not common. Such substances, if not detected on simple handling by the hard, gritty particles always associated with them, would inevitably be discovered on mixing and stirring the flour with a good proportion of water when they would separate at the bottom of the vessel by reason of their greater weight. Bad flour has a musty flavor and sour taste. Dough made from it is ropy, hard to work and gives dark-colored bread. It can hardly be worsted by adulteration. Good flour is a soft, almost impalpable powder, sweet and free from musty odor. It makes a tough, elastic dough. The only substances at all likely to be mixed with it are starches obtained from other grains or other sources. As flour is itself mainly starch such an adulteration would be perfectly harmless. These foreign starches may easily be detected by the microscope. They, moreover, so modify the natural creamy appearance of good flour that their presence is apt to be apparent to the eye. Such adulteration is probably rarely practiced. We need not comment on the occasional occurrence in flour of chaff, darnel or ergot. These are not strictly adulterations but occur accidentally, usually in small quantities, as the result of imperfection or carelessness in the gathering and milling. They are harmless and readily detected.

ITEMS OF INTEREST.

HOW TO BUILD A CHIMNEY.—A contributor, writing from Cambridge, Ill., to a local journal, gives the following directions for the proper construction of a chimney:

To build a chimney that will draw forever, and not fill up with soot, you must build it large enough—sixteen inches square; use good brick, and clay instead of lime up to the comb; plaster it inside with clay mixed with salt; for chimney tops use the very best of brick, wet them, and lay them in cement mortar. The chimney should not be built tight to beams or rafters, as most chimneys settle a little and if too tight between the beams and rafters, there is where the crack in your chimneys come, and where the most of the fires originate, as the chimneys sometimes get red hot. A chimney built from cellar up, is better and less dangerous than one hung on the wall. Don't get your stove-pipe hole so close to the ceiling—eighteen inches from it.

SAWDUST FOR FUEL—*Walla Walla (W. T.) Statesman*: At last one Oregon saw mill is doing a good thing with its sawdust, a contract having just been made with a flour mill close at hand for a supply of sawdust sufficient to keep the mill engine running, at a cost of \$50 per day, the power for the carrier being furnished by the flour mill. Even at this apparently exorbitant rate, the owners of the flour mill cut their fuel bill in half, the present expense for this item being one hundred dollars. It is doubtful if any saw mill in the United States is doing as well with its hitherto despised dust, but it is a "burning" shame that millions of tons of sawdust go to waste every year in a country which needs cheap fuel about as badly as it needs anything. It is alleged that sawdust can be worked into a fuel equal to hard coal at a cost of one-fifth or perhaps one-tenth the average price to the consumer of coal, but neither inventors nor capitalists seem to have done their duty in making and placing upon the market such a fuel.

STATE LOANS ON GRAIN IN RUSSIA.—To encourage the production and marketing of grain in Russia it is stated that a plan of giving state aid is being considered. The plan which it is stated will probably be adopted is for the State to lend money on consignments of grain, whether home or foreign, to the extent of 60 per cent. of its value on wholesale certificates, to be deposited in bank. The state will further agree to refund to railroads money advanced when receipts are deposited. One per cent. commission is to be allowed railways to cover special costs of handling. Grain not disposed of after a stated period is to be sold at auction. The responsibility for loss resulting must be borne by the railroads. This system of State aid is expected to encourage railroads to handle grain. At present great quantities fail to reach markets, owing to excessive charges.

DISTRIBUTION OF POWER BY COMPRESSED AIR.—A company is about to make the experiment in Birmingham, England, of transmitting power by compressed air over an area of about one square mile and a half, which will include about twenty-three miles of main pipes. Commenting on this, a writer in *Nature* says: "This is the first time that an experiment of this kind has been

tried in Britain. Power is distributed from a central station at Hull by the hydraulic system, but transmission by air has hitherto only been tried in small installations at mines, quarries, in sinking piers, as at the Forth Bridge, and in tunnel boring. In mines and tunnels it has very evident advantages, in that it keeps up a continual supply of fresh, cold air where ventilation is very much needed. The result of the present experiment will therefore be of the utmost scientific value to engineers, and will be watched with corresponding interest."

USING OIL IN BOILERS.

The *Manufacturers' Gazette*, of Boston, recently published several articles on the use of oil in boilers. The editor, who is a practical man and who has had considerable experience in the matter, says he believes "in a limited amount of oil, and that is *crude petroleum*, first, last, always and *only*. The quantity to be used is very, very small. We would take in every instance a boiler which had a slight amount of scale upon it, release every particle of this scale or sediment, blow

it out, and keep it out, and we are sure that our readers will profit by following the directions which have been given so many times, with increased safety to themselves and an advantage in economy, and we believe it is just as applicable to a cast-iron as a wrought-iron boiler, although we have not positively proved that such is the case from any actual experiment or test." The *Scientific American* says on this subject: "The proper way to use the crude oil is to send it into the boiler through the feedwater, only once a day, and only in very small quantities. One-half an ounce per day will keep an ordinary tubular boiler of 50-horse power as clean as possible; and after a few months of regular use the shell will be found as smooth as a piece of japanned work, provided it was not pitted at the start, and the tubes will be perfectly clean and smooth. The oil must be introduced into hot water, and for some reason it does its work better under pressure. If any constant feeding of the oil into a boiler takes place, the fire seams will commence to leak, for this has been tried; there seems to be a call for only a small amount of oil, and the small amount must not be exceeded."

THE GENERAL UTILITY CART.

This month we have the pleasure of illustrating an ingenious arrangement made by the Sandwich Mfg. Co., Sandwich, Ill., and which owing to its many and varied uses has been named as above, "The General Utility Cart."

We believe that the cuts will readily suggest a few of the many uses to which this combination is adapted. Please notice it is *not* a common barrel cart, although for



that purpose alone it is far superior to any of the barrel carts offered to the public.

With this cart, it is possible to handle not only one, but any number of barrels without fitting each with special trimmings.

Any number of barrels may be kept about the place, and by means of this cart made useful in many ways, because so easily lifted and transported. For instance, the barrel of swill from kitchen or dairy to pens, the barrel of clean water from the pump to kitchen or dairy, the barrel of apples or potatoes from the orchard or garden, the barrels of water deposited at the most convenient places about the hot houses, flower gardens, nurseries and lawns.

For the purposes named above and many others of a like nature the cart is complete without the box. In order, however, to give

it a wider range of usefulness the manufacturers have added a substantial box which is easily adjusted to its place or removed.

When in place it is supported on a bar with front link fastening and back end gates so that its load may be easily dumped.

We shall not attempt to enumerate the various uses to which this cart will be found adapted, but we prophesy that it must have an immense sale not only among farmers, builders, florists, horticulturists and warehousemen, but also among owners of suburban homes, for it will be found especially convenient in the garden and around the lawn.

For further particulars write the Sandwich Mfg. Co., Sandwich, Ill., who will be pleased to send full descriptive circulars and quote prices.

"We have boiler tubes cut from a tubular boiler which has been in use six or seven years, very small amounts of oil were used, where the tubes are as clean on the water side as though they had freshly been japanned with a thin coat, a little more being deposited on the upper side than on the lower side in their relative position in the boiler.

"We know that petroleum is in use on several ocean steamers, and that the work of cleaning the boilers in port amounts now to but little more than thoroughly washing them out and cleaning away the very thin scale which forms, where, before the petroleum was used, picking the scale from an eighth to a quarter of an inch thick on some parts of the boiler was regularly performed every time the ship laid up in port, while her cargo was being discharged and the return cargo being put in. We are not surprised, therefore, at the results which are given by these engineers, nor that they speak very strongly of its value. Every engineer has at hand, at a very low cost, an almost certain preventive of incrustation. It can be used every day at not more than one or two cents per 100 horse-power."

RECIPES.

CLEANING BRASS.—It is a great mistake to clean brass articles with acid, as they very soon become dull after such treatment. Sweet oil and putty powder, followed by soap and water, is one of the best mediums for brightening brass and copper. To frost brass-work, and give it an ornamental finish, boil the article in caustic potash, rinse in clean water and dip in nitric acid till all oxide is removed; then wash quickly, dry in boxwood sawdust and lacquer while warm.

TO HARDEN TOOLS.—A. E. Tucker claims that he has successfully edged grooving tools for chilled rolls by dipping the actual cutting portion in mercury. No more of the steel than is actually necessary should be dipped as, while imparting extreme hardness it naturally makes the body of the tool extremely brittle.

DETECTION OF ALUM IN BREAD.—The detection of alum in bread is accomplished as follows: A piece of gelatin (free from alum) is immersed in a cold infusion of the suspected bread for twenty-four hours. The gelatin upon being washed off with distilled water, to which has been added a little of a 10 per cent. solution of logwood tincture and ammonium carbonate, should not show a blue coloration if the bread is free from alum.

BOGUS BUTTER TEST.—To test oleomargarine, take a small bit of lard and place it between two pieces of thin, common window glass, each about an inch square and press together until only a film remains. When held up to the light white, opaque spots are always to be seen. These are crystals of fat. For the same reason oleomargarine and butterine, containing as they do, solid fats, may be detected in the same manner. Pure butter, on the contrary, does not show such specks. A little experiment with lard in this direction is an excellent means of cultivating the eye and qualifying one to readily determine, when applied to butters, the imitation from the genuine. This rule is practical enough, and is a sure one.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

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For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, MAY, 1887.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

PALACE THEATRE—Every evening, Wednesday, Saturday and Sunday Matinees.

STADT THEATRE—(German)—Wednesday, Friday and Sunday evenings.

S. P. TILTON, of Chicago, for many years flour inspector in Milwaukee was on 'change April 28.

MR. FRED. C. HEWEN is duly authorized by us to make contracts for advertising in the UNITED STATES MILLER.

THE next meeting of the Millers' National Association will be held in St. Louis, May 25, 26 and 27, 1887.

THE American Exposition opens in London May 2. It is to be hoped that it will prove beneficial to our commerce.

THE many friends of Tom Miller, Jr., secretary of the St. Louis Roller Repair Co., will be sorry to learn of his great misfortune in losing his wife. She died after a short illness, Sunday, April 10th.

ROBERT WILLIAMS, for many years head miller of the "Cream City," "Reliance" and later of "The Empire Mills" in this city is here on a short visit. He is now engaged in milling at Red Wing, Minn.

THE inter-state commerce law has a very stimulating effect on the business of all water routes. "It's an ill wind that blows naebody any gude." The Mississippi boatmen are jubilant over the present outlook and expect to carry a great amount of flour to New Orleans for export.

SECRETARY WHITNEY has awarded to the Bethlehem Iron Company, of Bethlehem, Pennsylvania, the contracts for furnishing about 1,310 tons of steel gun forgings and 4,500 tons of steel armor-plates at a total cost of \$4,512,938.29.

FLOUR spoils very easily. During the months from October to April but little change takes place in good flour; but from

spring to August a fermentation, is carried on; which gives rise to an offensive odor and which, once started, progresses throughout the winter following.

A STEAM wagon that runs on ordinary roads and hauls 20,000 pounds is making successful trips between Bisbee and Fairbank, Arizona. The distance is 60 miles and the trips are made wholly by daylight. The wagon is owned by the Copper Queen Mining Company.

EVERY large mill should have its own machines for grinding and corrugating its rolls. They are as necessary in mills now as mill-picks were in good old days. Millers can find a rare opportunity to secure a machine for this purpose by addressing The Filer & Stowell Co., Milwaukee, Wis.

FOR many years the export of American flour to Brazil has been quite an important item. It is now reported that English capital is about to be invested in large roller mills in that country. If such should be the case it will no doubt cut off to a certain extent the importation of American flour. The time, however, will come in the no distant future when our own population will consume nearly all of our own wheat crop.

THE only countries that allow their people to eat American bread without paying duty on it are Belgium, Denmark, Holland, England, Sweden, Honduras, Nicaragua and Chili; the countries that levy duty on American breadstuffs are Austria, France, Germany, Greece, Italy, Portugal, Russia, Spain, Switzerland, Turkey, Canada, Mexico, Hayti, Porto Rico, Argentine Confederation, Brazil, Ecuador and Peru.

AN exchange says: A fire broke out near the government wharf in Detroit, and the officer in charge called a tug, which put out the fire. The bill was sent to Washington, and payment refused because the officer did not advertise for sealed proposals to put out the fire and have it done by the lowest bidder.

FROM the report dated April 20, of the Hon. Wm. F. Switzler, chief of the Bureau of Statistics, we learn that the exports of merchandise for the twelve months ending March 31, 1887, were of the value of \$741,448,078, and that the imports for the same time were valued at \$673,097,213. The total number of immigrants arriving in this country during the same period was 179,861.

A NEW YORK labor commission reports that last year there were 1,900 "strikes;" in 1885 but 225. He finds that the total loss resulting in fifty-eight of them aggregated \$3,000,000; and, presuming on the ratio given, estimates the total loss at \$95,000,000. This is a high price to pay for a difference of opinion, or a clashing of interests, for the logic of all this, that the immense loss must be endured because those who earn wages do not stop to consider the immutable laws which govern the price of all commodities.

WE publish elsewhere a complete list of members of the various state associations who are also members of the Millers' National Association. It is to be hoped that not only the delegates appointed to attend

the convention will be present, but a large number of members of state organizations and outside millers. Any miller can become a member of the National Association on payment of \$5 per unit of capacity (35 bbls. per day of 24 hours). Can you afford to do without the protection of this body when it can be secured so cheaply?

MR. J. L. Styne, of Marietta, O., will read a paper entitled "Uniform Inspection and Terminal Charges," before the Millers' National Association at its St. Louis Meeting, May 25. Mr. Styne is connected with the Harmer Roller Mill, of Marietta, O.

P. D. ARMOUR, of Chicago, was on 'change April 28. Mr. Armour has great faith in the future of wheat, and says that while the market may go down 1c, it is quite likely to go up 20c. Before another crop is marketed, wheat will sell at a dollar in every market in this country. There is a large export demand, and New York shows a profit of 2c in shipments from lake markets. Mr. Armour says the Chicago people who are handling this deal are amply able to carry it to a successful close. They have plenty of money, experience and energy. Mr. Armour's dispatches from New York were of a stimulating nature, showing an active and advancing market. Chicago is leading the country, and other markets must follow.

ISIDOR WORMSER, of the New York banking firm of I. & S. Wormser, predicts a financial panic next fall on account of the contraction of the amount of national bank notes growing out of the calling in of 3 per cents and the failure of Congress to pass certain appropriation bills and to adopt other means to release the surplus in the U. S. Treasury. Secretary Fairchild says in substance that it will be the policy of the Government to take such action as may be necessary to prevent any such financial crisis, and that the law gives the Treasury Department sufficient authority to avert any serious difficulties. It is quite probable that an extra session of Congress will be called to relieve the difficulties caused by the Inter-state Commerce bill and to enact such other laws as may be deemed indispensable to the public welfare.

MR. SAWYER, of Sawyer, Wallace & Co., New York flour brokers, said recently, that he believed it would not be long before England would put a tax upon American flour to save her own millers from ruin, as London millers cannot make flour out of American wheat within 2 shillings per sack as cheap as American millers can lay it down in that market. He also said that on a recent trip through Great Britain he found the feeling very strong and growing in favor of protection, as the British farmer sees France and Germany adopting such measures to save their agricultural interests. He said the difference in freight on a compact sack of 200 lbs. flour 1,500 miles by rail, from Minneapolis to New York and 3,000 miles from New York to London, and on 4½ bushels of wheat, is an important one in favor of American millers, which cannot be overcome by English millers in any other way than by a tax on flour. Hence there is no alternative for the British government but to put a duty on flour, unless they decide to leave the millers of Great Britain to their fate.

MILWAUKEE NOTES.

CHARLES S. BIRGE succeeds the millwrighting firm of Birge & Smith. Mr Smith having been elected to Congress is obliged to devote his entire time to his official duties. Mr. Birge, now sole proprietor, will without doubt do a large and prosperous business. His work is well-known and well-liked throughout the Northwest.

H. C. RAU, a well-known Milwaukee miller and millwright and draughtsman, is now looking through the Northwest for a suitable location for a flouring mill.

JACOB OBERMANN, senior member of the firm of J. Obermann & Co., extensive brewers, died at his home Sunday, April 24th, after an illness of two or three days. He has been a resident of Milwaukee since 1843. He amassed a very considerable fortune. A large circle of friends throughout the country will receive the news of his death with profound sorrow.

THE Milwaukee Association of Stationary Engineers will soon remove to their new hall, 514 Grand Avenue. They number seventy members, including several manufacturers. The objects of the organization are: To elevate the profession; to secure a legal or recognized status for operating steam engines; to elevate and help its members; to secure the confidence of steam users; to prevent the explosion of steam boilers; and to permit only licensed engineers to operate boilers under pressure.

CHARLES WINCHESTER, a city flour dealer, has mysteriously disappeared. He is a son of Winchester of the milling firm of Winchester & Partridge, of Palmyra, Wis. His accounts are all correct, and he had but little money with him.

THE MILLERS' NATIONAL ASSOCIATION.

The above organization has of late been receiving a good deal of criticism from the milling press, the most of which is entirely uncalled for, and some of our contemporaries have made assertions which we believe they would not have done, had they taken the trouble to investigate the affairs of the Association. The strength of the Association, and the actual number of members and the milling capacity represented, can be inferred by referring to the lists of full paid members, May 1, 1887, which we publish elsewhere in this number, and the returns are not all in yet. When they are we shall print them. The list shows conclusively that the estimate made by some journals of from 160 to 200 members in the Association, is by no means correct, but we cannot help being surprised at the comparatively small number of milling firms who are members, when we know that there are about 20,000 flour mills in the United States, counting big and little. There are, however, probably not more than 4,000 flouring mills in the United States that can distinctively be called "merchant mills," that is, mills that grind for export and the general trade of the country, and not almost entirely for local custom, and the present membership of the Association is a reasonable though not an encouraging percentage of the number of "merchant mills." But it must be admitted that the membership does contain a large number of the leading and most progressive millers of the country.

During the past month we have visited Mr. Seamans, Secretary of the Millers' National Association, and he kindly answered all inquiries we saw fit to make and proved to us beyond all doubt, that the work of the Sub executive Committee was not only one of the greatest responsibility but at times very onerous, and further that *not a single member of the Association had ever yet expressed any dissatisfaction with the labors of said Committee, or with the results accomplished.*

It should be understood plainly, that the business of the Association has been conducted in the interests of its members, and not for the benefit of those millers who for any reason did not see fit to join, and if outside millers get into trouble over infringement suits, and have to pay more to get out of it than members of the Association, it is certainly their own fault, for they have been urged and entreated to join during many years past. There are few millers in the country who individually are able financially to fight a patent suit clear through the United States Supreme Court, but an Association of a few hundred millers can do so if need be, and the expense to each miller will be trifling. And here it may be noted that an Association can command more influence and has greater facilities for securing testimony than any individual. As we understand it, the members of the Association after years of trying to increase their membership got tired of missionary work and concluded to follow such a course as they deemed would be of the most pecuniary advantage to them and consequently some suits have been contested successfully and some have been compromised on most advantageous terms for the members. In successfully contested suits all millers in the country, *whether members or not* reaped the advantages, while in compromised cases they have been compelled to settle on the best terms they could get.

A few months ago an organization was incorporated under the laws of the state of Illinois, called the Consolidated Roller Mill Co. This company consisted of four of the largest manufacturers of roller mills in the United States, viz: Edw. P. Allis & Co., of Milwaukee, Wis.; The Stilwell & Bierce Mfg. Co., of Dayton, O.; The Nordyke & Marmon Co., of Indianapolis, Ind., and the Jno. T. Nye Mfg. Co., of Buffalo, N. Y. This consolidated company is duly authorized to issue licenses for the use of any and all roller mill patents owned by each of the firms above named. It must be conceded that this is a powerful combination and after mature consideration the sub-executive committee came to an agreement with the Consolidated Co. for the protection of its members, which agreement will no doubt be ratified by the convention to be held in St. Louis May 25-27.

Further, five other prominent manufacturers of roller mills (Todd & Stanley Mill Furnishing Co., St. Louis, Mo.; Barnard & Lea Mfg. Co., Moline, Ill.; The Great Western Mfg. Co., Leavenworth, Kas.; Willford & Northway Mfg. Co., Minneapolis, Minn., and The Richmond City Mill Works, of Richmond, Ind.), without solicitation on the part of the committee put up bonds in the sum of \$50,000 each, binding themselves to protect their customers from all suits for infringement of roller mill patents. These bonds are a reasonable security to the entire milling

public using rollers. It was immaterial to the committee whether they put up bonds or not. The Consolidated Company being the aggressors, had proposed to release against any possible contingency, *every member of the association*, in the right to use roller mills now being used from any and all claims contained in any of the numerous patents controlled by them, and it may be noted that two suits brought by a member of the Consolidated Company against one of the nine manufacturers represented at the Chicago meeting, had already been decided in their favor. The strength of the association has been able to effect so much protection for members and non-member. We deem it but just to say that in view of the fact that every roller mill in this country is liable to suits for infringements and the committee having the opportunity, it was their *duty* to their members and no one else, to protect them against any possible contingency. This they have done by the agreement with the Consolidated Company, and a bond of indemnity to carry out the details of their agreement on the one hand made it necessary for other manufacturers to likewise secure roller mills of their make or else go out of that line of business.

The committee is not slow to look out for the general welfare of the trade as may be seen in Secretary Seaman's office from reading a voluminous correspondence carried on for several months in relation to our flour trade with Brazil and other countries. This matter will be brought before the St. Louis convention for thorough discussion and action.

We hope to see a large turnout at the St. Louis convention, and a thorough and harmonious discussion of association affairs. We further hope to see a good set of officers elected or re-elected, and as we said last month we do not want to see any milling journalists on the roll as an officer of the association in any capacity for the reason that it is sure to cause unpleasant feelings among even that most amiable body of men in the world, *i. e. the milling journalists.*

THE Minnesota State Millers' Association met in Minneapolis, April 12 at 10 A. M. The report of the treasurer showed the financial condition of the Association to be good, over a thousand dollars being in the treasury and consequently no assessment was made for 1887. The following officers were elected: F. L. Greenleaf, president; Chas. Espenshied, of Hastings, and L. Christian, of Minneapolis, vice-presidents, and F. R. Petit, treasurer. F. L. Greenleaf was elected member of the National Association Executive Committee for Minnesota. A committee of seven were appointed to attend the National Millers' convention to be held May 25, 26 and 27 in St. Louis. It was agreed that any milling firm in the state might become members on payment of \$10 per unit of capacity (35 bbls.) providing no suits for infringement of patents was pending against them. The Columbia Mill Co. and Christian Bros. Mill Co. of Minneapolis became members. The bran question was discussed and \$500 placed at the disposal of the Executive Committee for the purpose of publishing the Wisconsin and Kansas bran tests and other facts which would tend to increase the demand for bran for stock.

FOREIGN NEWS NOTES.

LATE advices from the Argentine Republic, S. A., are very favorable to that country. It is estimated that that country will have about 12,000,000 bushels of wheat for export this year. The imports of the country for the past year are placed at \$50,000,000 and the exports at \$60,000,000. Wheat, wool and linseed are being exported to Europe in large quantities. The cholera has almost entirely disappeared.

THE untaxed importation of American flour has led to the embarrassment of one of the largest firms of millers in the south of Ireland, Messrs. John Norris Russell & Sons, of Limerick, who will probably make, however, a substantial offer to their creditors. There is not a town of note in the county in which Messrs. Russell's mills, worked in the main by water-power, did not give large employment. In and around the city of Limerick they had five large mills worked by water, and in addition to this they had numerous bakeries and establishments all over Ireland, so far north as Londonderry. They were also large importers of grain, and some years since were the chief proprietors of a large fleet of steamships, which traded between Limerick and England.—*Mark Lane Express*, London.

AT Birtle, Man., Arnold Williams is fitting up a grist mill and will soon have it in operation. The farmers about Portage la Prairie have organized a stock company for the purpose of building and operating a grain elevator.

A VIENNA correspondent says that in Vidovec, a Hungarian village near Warasdin, the belief of an approaching war seized hold of the entire population a few days ago. A splendid Fata Morgana was observed during three consecutive days on the wide plains around the village. Enormous divisions of infantry, with scarlet caps, appeared to be moving in the plains and performing exercises to the words of command of a colossal chief whose sword was seen flashing in the air. The phenomenon lasted several hours, and finally the soldiers disappeared in mid-air. The people stood awe struck in great crowds, and observed every movement of the phantom soldiers with breathless attention. Two gendarmes afterwards went in the direction of the scene of action to see if any traces could be found, but of course in vain. The phenomenon is believed to have been the reflection of some infantry divisions manœuvring at some miles distance.

LATE advices from Frankfort a. M., Germany, indicate that the World's Fair at that place is a great success.

A CURIOUS accident occurred at a brewery at Dover, England, recently. The apron of a man engaged in painting some machinery caught in a fly-wheel which was making about forty revolutions per minute. The man was at once carried up, and the first time he was whirled round his head struck against the ceiling; but he clung close to the wheel, and avoided any more blows of the kind. The unfortunate man's shouts were heard by the engine driver, who stopped the machinery as soon as possible, but not before the wheel, with its living burden, had made thirty or forty revolutions. When he was taken down, he was stripped of all clothing except his boots, but beyond a severe shaking and a few bruises, he was uninjured.—*The Engineer*.

A GERMAN milling paper says: Russia has over 6,000,000 soldiers at her command, and Italy could place 2,400,000 men in the field at a moment's notice.

THE Port Elizabeth steam flour mill at Port Elizabeth, South Africa, reports a loss on the past year's business of about \$9,000.

The three items following are from *The Miller*, London:

THE CEREALS DUTY IN FRANCE.—After long debates in both Houses of the French Legislature, the proposed raising of the duties on cereals and certain substances manu-

factured from cereals has become law, and was promulgated as such in the Official Journal of Paris on the 30th of March last. By its provisions wheat imported into France pays a duty of 5 francs, instead of 3 francs, on each 100 kilogrammes (220.49 lbs.), while flour, or meal containing more than 10 per cent. of flour, is subjected to a duty of 8 francs on the same weight.

THE RIO DE JANEIRO FLOUR MILLS.—An extraordinary general meeting of the Rio de Janeiro Flour Mills and Granaries, Limited, was held at the Cannon Street Hotel, on Tuesday, March 29, Mr. R. Foster occupying the chair, when it was stated that of the 25,000 shares, 18,523, or close upon three-fourths, have been allotted. On the share register appear the names of several merchants and persons of influence residing in the Brazils, or whose business is with that empire. The time fixed by the contract for the completion of the works is Nov. 30, 1888, but the contractors hope to finish before that date.

Messrs. GANZ & Co., Limited, Ironfounders, millwrights and engineers, of Budapest, Hungary, and Ratibor, Germany, have established a branch in Melbourne, as head office for Australia and New Zealand, under the style of Ganz & Co., Limited, Branch for Australasia. Mr. Chas. Flesch has been entrusted with the management of this branch.

THE N. Y. *Commercial Bulletin* says: Our Canadian friends are beginning to discover the folly of placing a duty upon wheat, thus depriving their millers of the very kind of wheat they most need, namely, American hard spring, and at the same time affording not the slightest benefit to their farmers, the price of the cereal being established in both Canada and the United States by the English markets.

It has been reported that L. Walter, the technical manager of the Buda Pesth (Austria-Hungary) mill with civil engineer A. Gillitzer, has invented a new milling process. It is further asserted that this process is, owing to its simplicity, heavy yield and economy over present methods, likely to effect a revolution in Hungarian High Milling. We shall endeavor to furnish further particulars to our readers soon.

PRACTICAL NOTES.

THE *American Machinist* SAYS: It is very generally believed that in all boilers where the scale and dirt can be removed from the bottom by scrapers and washing, it is better to let the water out cold, or nearly so. By doing this more of the scale is likely to be dissolved and loosened, and there is less danger from sudden contraction.

A WESTERN trade journal calls attention to the clever contrivance of an engineer who has a copper urn attached to the steam pipe above his sight feed cylinder oil cup. The urn is kept full of oil, and is connected by a small pipe to the feed cup, which may be filled from it at any time by the manipulation of a couple of valves. The arrangement is a decided improvement on trying to pour a thick stream of cold oil into a small hole in a hot oil cup in the dark.

A MODE of preventing boiler explosions has been patented by B. Meyer, Gleiwitz, Germany. It consists in bolting a metallic plate over an opening in the shell, with a strip of packing between to make a steam tight joint. This plate is of such strength that it will be torn out, it is claimed, before the elastic limit of the shell is reached.

CARRYING POWER OF CONVEYORS.—D. K. Clark is authority for the following: A 12-inch screw, having a pitch of 4 inches, turning in a trough with a clearance of $\frac{1}{4}$ inch, and revolving with the speed of

maximum effect, 60 turns per minute, discharged $6\frac{1}{2}$ tons of grain per hour, expending .04 horse power per foot run. The sectional area of the grain moved was 49 per cent. of that of the screw. At speed above 60 turns per minute the grain did not advance, but revolved with the screw. An endless band 28 inches wide, traveling about 9 feet per second, delivered 70 tons of grain per hour; power expended, .014 horse power per foot run.

PULLEYS AND BELTS.—A belt has been known to refuse to do the work allotted to it, and continue to slip over pulleys two feet in diameter, but from the moment the pulleys were changed to three feet in diameter there was no further trouble. These observed facts seem to be at variance with and to contradict the results of the experiments that have been made.

It is recommended that all pipes, steam, exhaust and discharge, be made as straight as possible, but always of ample area. Keep the steam end well oiled. The exhaust should have an area double the steam pipe. The pump should be firmly secured on a rock or masonry foundation, and in all cases be easily accessible for use.

TO REMOVE one troublesome complaint that frequently causes grate bars to warp, have suitable space, or clearance, at each end of the bar. Grate bar bearers will prove more serviceable if they are placed a short distance from the end of the grate bar, leaving space so that whatever falls at the end may not lodge there. Some grate bar bearers are placed up to the bridge wall at one end and join the dead plate at the opposite end. As these places are most likely to accumulate ashes they speedily choke up, if openings are not provided for their escape.—*American Engineer*.

FUEL FOR THE PRAIRIE.—An Iowa genius has introduced to notice a new fuel, which is designed to take the place of coal in the prairie countries. This fuel is made by grinding corn stalks and coarse prairie grass together, moistening them, and then pressing the pulp into blocks about twelve inches long and four inches thick, and dried. It is reported that one block will give an hour's steady heat. This fuel can be produced at \$2.00 per ton.

A BONUS OF 1500 DOLLARS

Will be donated by the Citizens of

BILLINGS, MO.

to a Responsible Party or Firm who will erect a \$10,000.00 Flouring Mill at the above point. Best location for a mill that can be found and the best wheat country in the west. For further information address

J. W. SANDERS & CO.,
BILLINGS, CHRISTIAN COUNTY, MISSOURI.

DISSOLUTION OF PARTNERSHIP

OFFICE OF C. S. BIRGE,
659, 661, 663 EAST WATER STREET.
Milwaukee, May 1, 1887.

The undersigned begs to inform the public that the co-partnership heretofore existing under the firm name of Birge & Smith has been dissolved by mutual consent, Henry Smith retiring.

I will continue the business and endeavor to deserve a continuance of your patronage by first-class work, promptness in the execution of orders entrusted to me and adequate prices.

I will also collect the outstanding accounts and pay all claims against the firm dissolved.

Thanking you for past favors, I respectfully solicit a continuance of same, again assuring you, that no pains will be spared to meet your approval.

Yours very truly,

C. S. BIRGE.

NEWS.

Gaines & Lewis, Kingston Ga., will change their mill to the roller system this summer. Estimates wanted.

The Wythe Speedwell Mining and Mfg Co. of Speedwell, Va., contemplate the erection of a flour mill during the coming summer.

James Craik, a miller in the employ of A. A. Freeman, of La Crosse, Wis., mysteriously disappeared not long since. Some suspect foul play, and others think it a whim of Craik's, as he is said to have suddenly disappeared once before, for fourteen months.

The Jackson Milling Co. succeeds the firm known as Coleman, Jackson & Co., with mills at Stevens Point, Amherst and Centralia, Wis.; capital \$100,000; capacity of the three mills about 400 barrels per day.—J. R. Callender's mill of Bicknell, Ind., has been fitted up on the "Short" system.

Articles of Association have been filed at the Wisconsin Secretary of State's office by the Reliance Wire Company, of Milwaukee, with a \$20,000 capital stock. Its purpose is to manufacture and deal in all kinds of wire goods. The incorporators are Frank A. Hall, W. N. Fitzgerald and Oscar F. Lindman.

It is said that a company with a capital of \$100,000 and upwards will be organized at Fayetteville, Tenn., to use the large water-power with which that place is blessed. This company will build mills of various kinds, among which will be a 200 bbl. flour mill and a large cotton factory. A. J. Thomas is interested in the project.

The Lake Park Roller Mill Co., Lake Park, Minn., have contracted for a 75-bbl. roller mill.—C. Burkhardt, of Burkhardt, Wis., intends to have his 200-bbl. mill ready for work Sept. 1.—O. C. Gove & Co. will soon erect a large oat-meal mill at Spokane Falls, W. T.—At a meeting of the St. Cloud, Minn., chamber of commerce the executive committee was instructed to draft articles of incorporation for a 300-bbl. roller mill. The capital stock is placed at \$50,000.

Serious damage was done by the flood at Black River Falls, Wis., April 12.—A young man named Joseph Barth was instantly killed by a fall, while working on Gilbert's new mill at Menasha, Wis.—Krueger & Lachman shut down their mill at Neenah, Wis., April 12, on account of the Inter-State Commerce law which increases the cost of Neenah flour delivered at Milwaukee, 45 cents a barrel, where the wheat is shipped in and flour shipped out.—The firm of Henry & Co., Huntingdon, Pa., has been dissolved and will hereafter be known as the Henry Milling Co., with B. F. Isenberg as general manager.

Mr. T. C. Friedlander, of the San Francisco Produce Exchange, in his latest report concerning the wheat crop in California, says: "The acreage seeded to summer fallow is considerably below the average, but this part of the crop is in a generally good condition, and with any rain will make a good crop. The total acreage seeded is below the amount seeded last year. The late grain, of which there is a large amount, is beginning to suffer want of moisture, and, in some sections, is beyond redemption—notably on the west side of the San Joaquin Valley, where the acreage seeded is not 25 per cent. of last year's area.

FIRES.—W. A. Hart's flour, saw and grist mill and 1,500,000 feet of lumber, at Wah-jamega, Tuscola Co., Mich., was burned by an incendiary. Loss, \$40,000. No insurance. The Union elevator at Morris, Minn., burned April 17th with contents, about 12,000 bushels of wheat. Fairly insured. Cause unknown.—John Wahl's elevator at Wrightsville, Ill., burned with contents April 19th. Loss \$3,000. Insured.—Reynold & Dobbin's mill at Chattanooga, Tenn., burned. Insured.—A. T. Morrow & Co's mill at Prospect, O., burned. Loss about \$17,000.—Enyeart & Co's mill at Saxton, Pa., burned April 14th. Loss \$12,000. Insurance \$4,000. R. M. Todd's elevator at Rock Falls, Ia., burned April 20th, with 12,000 bushels of

oats. Loss \$6,000. Fully insured. Incendiary.—At Willmar, Minn., April 20, the elevator owned by the Northwestern Elevator Company of Minneapolis was burned. Twenty thousand bushels of wheat were destroyed. Loss about \$22,000.—At Alsey, Ill., April 21, the large flouring mill of J. T. Roberts was burned. Loss \$14,000. Insurance \$6,700. Cause of the fire unknown.—At Yates City, Ill., April 19, a large grist mill belonging to M. Beeson was destroyed by fire. The cause is unknown. The loss is estimated at \$3,000, on which there is \$1,200 insurance.—At Elgin, Ill., April 18, William Heine's flouring mill was burned.—At Draketown, Pa., April 20, Frank Drake's flour mill was burned. Loss \$30,000. Insurance \$13,000.—At Burlington, Kan., April 23, fire destroyed the flouring mill owned and operated by Peer, Horton & Miller. The mill was a total loss and valued at \$40,000; insured for \$25,000.

Work on the elevator at West Superior, Wis., is being rapidly pushed by the Chicago, St. Paul, Minneapolis & Omaha Railway company, under the supervision of the reliable contractors, J. T. Moulton & Son. This firm erected the first elevator on the Duluth side, and most of the others. They expect to have the one they are now engaged at in West Superior ready for business early the coming fall. It will have a capacity of 800,000 bushels, with two additions of 1,000,000 capacity each. They have a force of two hundred men at work, which will be greatly increased upon the breaking up of the ice. An average of 20 car loads of material per day is received. This, with the coal dock and numerous other contemplated improvements, will warrant a boom of the substantial kind at Superior the coming year.

P. J. Gramling, Orangeburg, S. C., will soon start up a mill.—Citizens of Alpena, Mich., are striving to secure a mill at that place.—Payton & Mitchell, Guthrie Centre, Ia., will put in rolls.—Wisner, Neb., will soon have a 100-bbl. roller flour mill.—The \$50,000 steam flour mill at Minneapolis, has at last been completed.—Donaldson & Freeman's mill at Clayton, Ga., has started up.—Richard Mann's mill at Brownsville, Tenn., has commenced to grind.—F. Arnold has purchased a considerable part of the machinery for his new mill at St. Cloud, Minn.—Mt. Pulaski, Ill., citizens offer a bonus for a flour mill.—A stock company is being organized at Danville, Ky., to build a mill.—Riceville, Tenn., will probably have a 100-bbl. mill soon.—D. C. Backus and others are to build a flour mill at Annawan, Ill.—McDaniels & Richards have bought the "Rapid Mills" at Mankato, Minn.—G. E. Comstock and others are making arrangements to build a mill at Canaserago, N. Y.—Council Grove, Kans., wants somebody to build a mill there.—A \$10,000 mill is to be built at Seymour, Ind.—A stock company is being organized at Brooklyn, Iowa, to build a big roller flour mill.—Hamilton's mill at Flint, Mich., is being overhauled.—E. C. Hutchinson's mill at Trenton, N. J., is being completely overhauled.—The Danube Mills" owned by the Alvarado Mill and Elevator Co. at Alvarado, Tex., have started up and are making 100 bbls. flour and 100 bbls. corn-meal per day.—Stutz & Son's mill at Rolling Prairie, Ind., is being rebuilt.—A stock company is being organized at Warsaw, Ill., to rebuild the "Grace Mill" recently burned, the capacity to be from 150 to 200 bbls. per day.—Forrey & Co. are soon to build a mill at Stillwell Junction, Ind.—The Coleman Milling Co., Coleman, Tex., are building a 100-bbl. mill.—Messrs. J. D. & F. A. Raht are about to build a 75-bbl. mill at Tullahoma, Tenn.—J. C. Bucher, Mt. Holly Springs, Pa., is changing to the roller system; also Lorah & Leech, of Hughesville, Pa.—Bardrick & Van Horn, Larned, Kas., will build a 100-bbl. mill; and also an elevator at Hutchinson, Kas.—Work will soon be commenced on a 150-bbl. mill at Groton, Dak., L. H. Neff, John Cole and others, comprise the company.—A 150-bbl. roller mill will be built at Craigsville, Pa., by Haines, Leard & Smith.—The sum of \$50,000 is to be expended in improving the water-power and building a mill on the Arkansas River, at Derby, Kas., by a stock company.—G. S. Richard and Co.'s mill, at Unionville, Ct., is nearly completed, and is far superior

to the one burned.—The Timmons Mill Co., are building a corn, oat-meal and hominy mill at Nashville, Tenn.—Messrs. Kendrick, Pearce & Spillman, will build a 75-bbl. roller mill at Plano, Tex. The contract has been let.—It is reported that a 200-bbl. roller mill will be built at Fayetteville, Tenn., by A. J. Thomas and others.—Allum & Holtry will receive a bonus of nearly \$4,000 for building and operating a 100-bbl. mill at Des Moines, Ia.

Flour mills will probably soon be built at Keyser, N. C.; Kaufman, Tex.; Dayton, Tenn.; Rockville, Ind.; Paris, Tex.; Poca-hontas, Ark.; Columbus, Miss.; Lake Benton, Minn.; Russellville, Ark.; Dodge Center, Minn.; Eureka Springs, Ark.; Brownsville, Tenn.; Cleveland, Tenn.; Usquepaugh, N. Y.; Greenville, O.; Bufordville, Va.; Blacks, S. C.; by Haldeman Bros. at Luetha, Wis.; Homer, Mich.; Crockett Depot, Va.; at Greenville, Tex., by G. M. McSpadden; at Tollesborough, Ky., by Grigsby & Putnam; at Perry, Ga., by Perry Variety Works; at Chattanooga, Tenn., by a Mr. Thompson; at Boiling Springs, Pa.; at Vilas, Dak.; at Marysville, Tenn.; at Benton Harbor, Mich.; by Benton Harbor Milling Co.; at Pearsall, Tex., by Pearsall, Mill Co.; at Savannah, Ga., by J. H. Rowe; at Honey Grove, Tex.; at Hannaford, Dak.—At Ancaster, Ont., by W. H. Shaver.—At McGregor Station, Man.—By G. Shepherd, at Primrose, Ont., a 75-bbl. roller mill.—By Smith Bros., at Long Island, Kas.—J. W. Burtin, is building a mill at Maple Hill, Kas.—The Waterville, Kas., mill is to be rebuilt.—Mound Ridge, Kas., has a new \$20,000 roller mill.—Jos. Wellman contemplates building a mill at Flint, Mich.—S. D. Thayer, Clifford, Mich., will build a roller mill.—H. Sproul & Son will build a mill at Anandale, Pa.—W. H. Nurburger has started his mill at Augusta, Ga.—The Union Milling and Manufacturing Co., capital \$50,000, will soon erect a flour mill at West Point, Ga.

The time having arrived (May 1, 1887) for the final settlement of the C. C. Washburn estate an important part of which is the milling property at Minneapolis, the heirs have organized a stock company with a capital of \$1,000,000 to be known as "The C. C. Washburn Flouring Mill Company." The company is composed wholly of heirs and legatees, the various amounts being set down as so much cash. The officers are: President, Charles Payson, Washington; secretary, A. M. Bayley, Minneapolis; treasurer, John B. Gest, Philadelphia. The directors consist of these gentlemen, with the exception of Mr. Gest, and S. B. Washburn, Jr., F. E. Homes and F. W. Stephenson, St. Paul. It is not at all probable that the new company will operate the three mills. They will undoubtedly be leased to Washburn, Crosby & Co., as they were under the old arrangement. In the meantime the mills are closed down and the employes dismissed, pending the completion of arrangements.

MAY 4, A. L. Clarke disposed of his large interest in the milling firm of Comstock & Co., of Hudson, Wis., to C. Burkhardt, a prominent flour manufacturer of Burkhardt, Wis. The plant was then converted into a stock company to be styled the "Willow River Milling Company," capital stock \$12,000. The directors are Messrs. Comstock, Jefferson, Goss, Burkhardt, Ismon, Buell and Agnew. They elected officers as follows: C. Burkhardt, President; A. J. Buell, Vice-President, J. R. Agnew, Secretary and Treasurer. The new management have entered upon their duties. Mr. Clarke will go either to California or Mexico, on account of his family's health.

MAY 2, at Louisville, Ky., fire destroyed the five-story grain elevator of Strater Bros., the grain warerooms and conveyor owned by Brown, Johnson & Co., and 12 cars loaded with grain and hay, on the Louisville & Nashville track, and 2 small cottages. Losses are: Strater & Bros., \$85,000—insured \$8,000; Brown, Johnson & Co., \$20,000—insured \$12,000; other losses about \$7,000—no insurance.

WE will furnish the UNITED STATES MILLER for one year and Alden's Handy Atlas of the World, post-paid, to any address in the United States and Canada, for \$1.

PUBLICATIONS RECEIVED.

Two articles on the Pharaohs, containing thirty illustrations, will appear in the May *Century*. The special subject is the Oppressor of the Israelites, Rameses the Great. Mr. Edward L. Wilson, who will be remembered as the author of "A Photographer's Visit to St. Petra," tells the romantic story of the discovery of the royal mummies, as he had it from the finder, Brugsch Bey. The second article, by Prof. J. A. Paine, is a study of the characters of the Oppressor and his daughter, the rescuer of Moses, as shown by their many monuments. Professor Paine inclines to the belief that Rameses was of Assyrian descent. Many of the illustrations are from photographs by Mr. Wilson.

THE *American Magazine* for May contains articles by Prof. Van Buren Denslow, Edgar Fawcett, E. Frank Lintner, Z. L. White, W. H. Rideing, Rev. John P. Newman, John Philip Phillips, Rose Eytling, and other writers of note. Prof. Denslow appears in a new role, viz: that of a novelist. The title of his story is "The Raquette in 1855."

AGAIN a welcome visitor has arrived, and as usual, with new ideas. In fact, one will always find something new in *Demorest's Monthly*. In the May number is commenced a new department, "Sanitarian." It is to teach woman how to keep healthy; and as *Demorest* always does things well, this department will be found a great boon to mothers and daughters.

The serial "Allan Quatermain" (by the author of "She"), increases in interest, and the publisher is to be congratulated upon securing such a great addition as H. Rider Haggard to the already fine list of contributors.

Ladies, if you want a progressive magazine, see *Demorest's*. Published by W. Jennings Demorest, 15 East 14th St., New York city.

ST. NICHOLAS FOR MAY.—The number opens with a beautiful frontispiece illustration, by Blum, to "Catarina of Venice," the "Historic Girl" whose romantic history is related by R. S. Brooks; while Nora Perry, in "An Only Daughter," tells of a very modern and unhistoric girl, whose story is, however, none the less interesting on that account.

How many boys who whistle "Marching Through Georgia" know the story of "Sherman's March to the Sea"? General Adam Badeau tells it in the May *St. Nicholas*, and it reads like a tale of adventure—which in fact it is—the biggest adventure in modern times. It is illustrated by Theodore Davis, who was with General Sherman on the march, and by E. W. Kemble, W. L. Shepard, and W. Taber. There is also begun in this number a three-part story of life at the U. S. Military Academy at West Point, by a recent graduate. It is entitled "Winning a Commission," and shows how the future Shermans of our country are being turned out. A number of other sketches and stories will prove of interest not only to the youthful but the "grown up" reader.

WE HAVE recently received among our foreign exchanges *The Mark Lane Express* of London, which under its new management is paying great attention to the grain and flour trades in addition to its many other departments of interest to the agriculturist and general reader. It is a large paper, published weekly and will be mailed to any address in this country for \$4.50 per year. The publisher's address is Mr. Walter Matthews, Clements House, Clements Inn Passage, London, W. C., England.

SCHIBNER'S MAGAZINE for May will contain an interesting illustrated article by Commander F. E. Chadwick, of the Navy, on "The Development of the Steamship," in which he traces the rise and progress of steam navigation, including the history of the great transatlantic lines, and describes the remarkable developments in naval architecture from the early boats of Fulton down to the magnificent ocean steamers of the present day. Professor N. S. Shaler, whose recent article on "Earthquakes" attracted much attention, will contribute to the May number of the same magazine an article on the "Forests of North America." These papers are understood to be the first of several by the same author.

Messrs. H. V. & H. W. POOR, publishers of *Poor's Manual of the Railroads of the United States*, respectfully announce that the Twentieth Annual Number of that standard work is now in preparation and will be issued about July 1st, 1887. The forthcoming number marking an important epoch in the

history of the work, as well as in the history of the vast interest of which it is the official hand-book, preparations are being made to issue the most elaborate *Manual* ever published. The completeness and official character of the book are now everywhere recognized, so that no comments on that point are believed to be necessary.

The price of the book will remain \$6 notwithstanding the increased cost of its publication. Orders may now be forwarded, those first received being assured earliest attention. The Second Number of *Poor's Directory of Railway Officials* is also in preparation, and will be issued in March next. Price \$3 per copy, or one copy of both works for \$7, if order for both works is forwarded in advance of the publication of the *Manual*. Address H. V. & H. W. POOR, Publishers, 70 Wall Street, New York City.

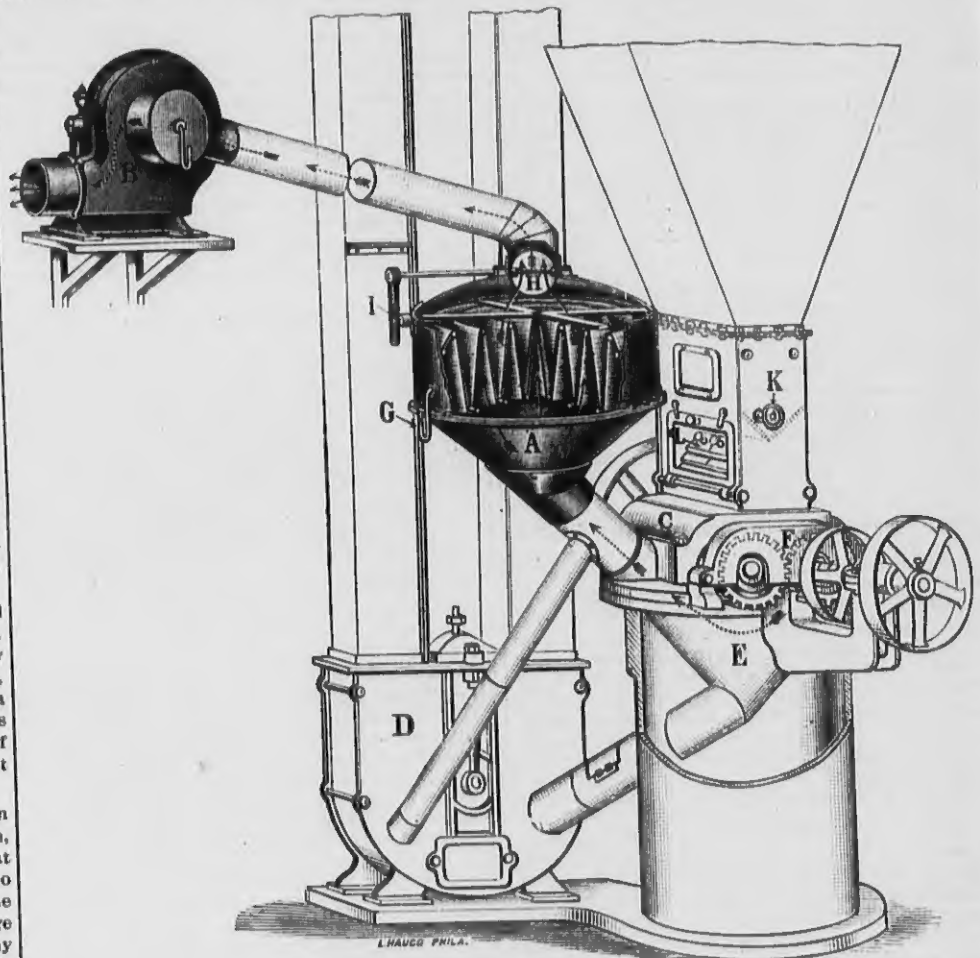
THE ART AMATEUR for May gives a striking portrait study in colors by Stephen Hills Parker of a "Norman Peasant," forcibly painted and full of life and character. The remaining designs include a pleasing decorative head by Ellen Welby in brown, a fine study of lilacs, three full-size panels for a hall

MR. CHAR. B. MURRAY, Editor of *The Cincinnati Price Current*, is just out with his thirty-eighth annual report of "Pork Packing in the West," and elsewhere in the United States. It is a carefully prepared work and of deep interest to all interested in the provisions trade. Price 25 cents.

BEHRN'S FLOUR DUST COLLECTOR.

The terrible explosions which took place in the gigantic flouring mills of Minneapolis, Minn., in 1878, gave rise to reflections over the cause of their origin. Prominent milling engineers, chemists and other scientific men, took an interest in the matter, and labored jointly towards solving the cause and devising means for preventing a recurrence of such serious disasters.

After a lengthy and thorough study all arrived at the conclusion that the primary cause of the explosion must be attributed to the ready inflammability of the mill-dust,



BEHRN'S FLOUR DUST COLLECTOR.

chest of carved oak, decorations for a fruit plate (plums) and a vase (marsh marigolds), a bird design for a fan, a page of monograms in N, and designs for a stole and other needlework. Several illustrations are given of American pictures at the forthcoming Paris Salon, including a double-page drawing by Henry Bacon, "At the Capstan—Etretat," and a striking dog picture, "Comrades," by Elizabeth Strong. The Salon, the National Academy Exhibition, the Boston Art Museum and the Probasco picture collection are the subjects of interesting articles. The practical topics specially treated are fruit painting in oils, flower painting on china, sketching from nature, and wall and floor decoration; there is also a timely "talk" on fitting up a seaside cottage. The department of "Books Old and New" is unusually interesting to bibliophiles this month, and the whole number is an admirable illustration of the skill and thoroughness with which THE ART AMATEUR covers its chosen field. Price 35 cents. Montague Marks, Publisher, 23 Union Square, New York.

and although not the direct generator of this horrible devastation, yet it was fostered by the same. This being determined, the mechanical engineers could take charge of the matter, and one Mr. Behrn succeeded in building an apparatus, combining all the advantages desired for not only checkmating most effectively all such disasters, but whereby they become simply impossible. The first step in this direction was soon followed by another of none the less importance than the first.

Mr. Geo. F. Ott, 207-213 Buttonwood st., Philadelphia, has improved the machine invented by Mr. Behrn, so that it can be made serviceable in flouring mills. As can be seen from annexed engraving, the Behrn apparatus, improved by Mr. Geo. F. Ott, consists of a flannel filterer (A) and a suction appara-

tus (B), the tubes of which are connected with the grinding mill (C) and the elevator (D). Immediately beside the grinding mill the dust collector is located, which is connected with the funnel (F) below the rolls (E). As soon as the air suction apparatus is set in motion, the fine flour dust produced in the mill during the grinding, is carried to the flannel filter and attaches itself there. When so much dust has accumulated as to impede the motion of the suction apparatus, the air shaft (H) is closed, and a heavy blow with a "knocker" is given the concussion plate (I), thus causing so strong a vibration of the filter that the entire accumulation of dust falls either direct into the elevator or any other vessel or receptacle placed in readiness. Valve K, which serves as a feeder for the rolls, located above a magnet, has an air gauge (G) attached, indicating whether the air shaft must be closed or not.

The improved device by Mr. Geo. F. Ott, not alone excludes every possibility of an explosion, but also protects the proprietor of the apparatus against the slightest loss of material, and the different apartments of the mill are kept perfectly free from dust, an item of great importance, the health of the respective employees taken into consideration.

Those desiring further information will please communicate with Mr. Geo. F. Ott, Progress Iron and Brass Works, 207-213 Buttonwood St., Philadelphia, Pa.

MILLER'S NATIONAL ASSOCIATION.

It has been decided to hold the annual meeting, Millers' National Association, at St. Louis, May 25th, 26th and 27th.

The Missouri State Millers' Association will meet at the same time. Arrangements are being made for a mass convention of millers. All are invited.

Come prepared to give as well as receive ideas and suggestions that may assist to relieve the present depressed condition of the milling industry. Anybody wishing to read a paper of interest to the members, on any subject pertaining to the milling business, will please confer with the secretary.

Arrangements have been completed for reduced hotel rates, an excursion on the river in one of the palace steamers, etc.

A pleasant and profitable time may be expected.

As further arrangements are completed, particulars will be made known through the milling press.

S. H. SEAMANS, Secretary.

Milwaukee, April 25, 1887.

We will send you a copy of "Leffel's Construction of Mill-dams, and Bookwalter's Millwright and Mechanic," and "The U. S. Miller" for one year for \$1.30. Don't miss it.

GLEANINGS FROM FOREIGN JOURNALS.

From the Mark Lane Express, London.

Briefly, the matter to be determined by the public is whether British agriculture shall stand or fall; if it is worth preserving on national grounds we see no means of providing timely relief other than import duties. If these can be proved to be necessary, then, we say, cast aside all side issues, compromises, "expediencies," "bounties," "Fair Trade," "Reciprocity," "countervailing duties,"—*et hoc genus omne*—and go for Protection, pure and simple, "as straight as the crow flies;" otherwise, let it alone. If protection is necessary it will, we think, have to be all along

the line; there are so many conflicting interests concerned that it would be difficult to adjust them. Not only so, but if our fiscal policy is to be changed—as we think it must be—why should not every article of foreign origin sold in our markets pay market tolls and ease the burden on our taxpayers?

From the British Baker & Confectioner (Glasgow.)

Low PRICES.—It reads uncommonly curious in these days, when prices are so exasperatingly low, that in the time of David I. of Scotland, about the middle of the twelfth century, one could buy a gallon of ale for a penny, or, desiring wine, a gallon of that liquor could be had for twopence. A cow could be bought for six shillings, and a sheep for eightpence, whilst the butcher's charge for killing an ox was only one half-penny. According to Haydn, in Henry I.'s reign (1130) enough wheat could be bought to serve 100 men for a shilling, and a sheep for fourpence. At the time of the enactment of assize laws for bread (1202), wheat appears to have been 1s. 6d. per quarter; yet it was even lower than this in 1280, there being such bountiful harvests in Europe. Wheat was sold at 1s. per quarter in the first Edward's reign (1280). During the fourteenth century it was under 3s. 6d. per quarter, but when it rose to 13d. a bushel in 1390, it was considered prohibitory, though about twenty years previously it had been 3s. a quarter more. When Edward IV. ruled, red wine was retailed at about 81. per gallon, and white wine at 10d. Rabbits were 3d. each; moorcocks, 2d.; brace of pheasants, 3s. 4d.; a salmon, 1s.; a pike, 5s.; pair of peacocks, 6s. The hind was paid for threshing corn in kind, receiving one quarter in thirty of wheat threshed; one in forty of barley and peas; one in sixty of oats, the measure being struck, and not heaped, says Professor Rogers. In Charles II.'s time the best cuts of butcher's meat sold for 2d. per pound, and coarser cuts at 1d. In the fifth year of Elizabeth, an old law relating to labourer's wages was re-enacted and put in force by the magistrates at quarter-sessions. Amongst others laid down by the Justices for Rutland, Professor Rogers cites that "a chief miller who can expertly beat, lay, grind, and govern his mill, may have for his wages forty shillings a year, and six shillings for his livery." But a common miller, who cannot beat, nor lay, but only grind, may have for wages twenty-eight shillings an sixpence per year, and five shillings for his livery. These were presumably wages in addition to board.

From the North China Herald (Pekin).

THE FOOD OF CHINA.—The greatest part of the soil of the Celestial Empire which is cultivated is devoted to the production of food. There are no flocks or herds, and the areas devoted to cotton and mulberry are very small compared to the extent of the empire. Of the two hundred and fifty or sixty millions of China, three-fifths live on rice, and two-fifths on small millet and wheat. In the dry, dusty soil of the northern provinces millet and wheat grow well, and form the food of the inhabitants; in the moist soil and hot climate of South China rice prospers, and forms the chief produce and food of the people. Maize extends over a wider area every decade. Valuable, too, is the glutinous rice, Hwang-mi, from which the old undistilled wine is brewed, and which is itself an appetising article of food. Cabbages and carrots, with the best turnips, onions, melons, and radishes, have come into China from the West; the kinds which are indigenous are inferior. Western gardening, which has improved so many vegetable productions, has done much, for China is supplying her markets. Spinach was introduced a thousand years ago from Persia, and the name Pot-say, by which it is known, means the Persian vegetable. Lately beet-root has come in from Europe, for, though the Chinese cannot make up their minds to make railways, they like new fruits and vegetables well enough. The introduction of European and American vegetables, seeds, and fruit trees into China is improving and varying the food of the people, just as

Western arts and manufactures are increasing their luxuries and comforts. And in these ways many changes are being brought about quietly but effectively, which are to a considerable extent altering the old life of the Chinese and almost imperceptibly opening the way to further departures.

MILLERS desiring to secure the latest and best practical book on milling should send to us for a copy of *Gibson's Gradual Reduction*. Price \$3.00, or with the UNITED STATES MILLER \$3.50.

NONSENSE.

DAUGHTER—"Father, did you really kick George, as you threatened to do?"

Old Man—"I did."

Daughter—"Oh, father, how could you? You have broken his heart."

Old Man—"No, I haven't. I didn't come anywhere near his heart."

CUSTOMER (in barber's chair)—Were you ever a butcher?

Barber—No, sir. But my fadder vas a butcher by dot Vashington market. He vas a good butcher.

Customer—You have inherited his talent. Only once over, please.

AGENT (to woman at the door)—Have you one of our patent double-back-action catch-'em-quick burglar alarms in your house, madam?

Woman—No sir. We had one awhile ago, but a burglar broke in one night an' stole it.

"WILL you please give me twenty-five or fifty cents?" he wailed: "I'm starvin'!"

"Can't you buy a loaf of bread for less than twenty-five or fifty cents?"

"Yes; but do you think a man can make a dinner on bread only? It's nothin' but a side dish."

GUEST (rising excitedly from the table, after testing an olive for the first time)—"It's sorry I'd be to disturb the hilarity of the meeting, but I believe some joker's been salting the gooseberries!"—*Judy*.

A LITTLE city maiden, on a visit to her uncle's farm, saw a thrashing machine in operation for the first time. "Oh, mamma," cried she, rushing into the house all out of breath, "there's something out in Uncle Joe's barn with two horses in it, and they keep going and going and never get anywhere."

THIRTEEN IS BAD LUCK.—"W'y, how yer do, Nancy?" said old Hester, addressing old Sanderson's daughter. "Didn't yer git married last Saddy night?"

"No; the weddin' dat come off didn't take place."

"Wha fo' didn't it, gal?"

"Well, 'case der wan't but 13 present."

"All foolishness. You oughtener b'lebe in no sich foolish 'spicion ez dat. I 'clar ter goodness, yer make me eshamed o' yer, puttin' offer weddin' jes' becase dey want but 13 dar. W'y n't yer sen' out an' induce de fo'teenf pusson ter come?"

"Well, daddy go out an' beg him ter come."

"Well, w'y n't yer go ahead an' let him erlone?"

"Couldn't."

"Why?"

"Case de fo'teenf man vas de pusson what had promised ter marry me; I tells yer, Aunt Carisy, 13 is bad luck."—*San Francisco Chronicle*.

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DEPART.	TIME TABLE.	ARRIVE.
1:45 a. m.	Iron Mountain Through Express	3:30 a. m.
3:10 p. m.	Iron Mountain Fast Mail	3:55 p. m.
1:45 a. m.	Menominee Through Express	3:30 a. m.
3:10 p. m.	Menominee Fast Mail	3:55 p. m.
1:45 a. m.	Marinette Through Express	3:30 a. m.
3:10 p. m.	Marinette Fast Mail	3:55 p. m.
1:45 a. m.	Green Bay and Ft. Howard Through Express	3:30 a. m.
9:10 a. m.	Local Green Bay and Ft. Howard	9:55 a. m.
3:10 p. m.	Green Bay and Ft. Howard Fast Mail	3:55 p. m.
1:45 a. m.	Menasha & Appleton Through Express	3:30 a. m.
9:10 a. m.	Local Menasha & Appleton	9:55 a. m.
3:10 p. m.	Menasha & Appleton Fast Mail	3:55 p. m.
1:45 a. m.	Neenah Through Express	3:30 a. m.
9:10 p. m.	Neenah Local	9:55 a. m.
3:10 p. m.	Neenah Fast Mail	3:55 p. m.
6:35 a. m.	Way Freight	7:45 p. m.

*Daily. Other trains daily except Sunday.
NOTE.—Freight trains are not for the accommodation of passengers. Passengers taking them at their own risk in regard to time.
Trains arrive at and depart from New Passenger Station, Fourth Ward Park.

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General Supt. Gen'l Ticket Agent.

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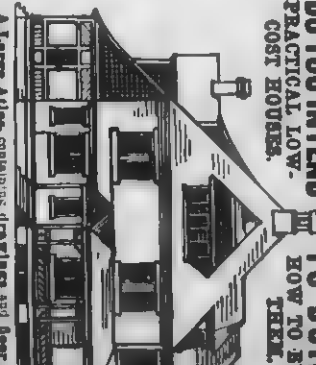
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(A unit of capacity is equivalent to 35 bbls. per day of 24 hours. The following lists of members of state associations are full paid members of the Millers' National Association.)

1. Alex. Syme, (torn down, 8).....	Menasha.....	Capacity 8
2. J. A. Kimberly & Co., (torn down, 4).....	Neenah.....	4
3. D. L. Kimberly.....	Neenah.....	4
4. Krueger & Son.....	Neenah.....	4
5. S. H. Seamans & Co., (burned, 10).....	Milwaukee.....	10
6. C. Manegold & Son.....	Milwaukee.....	12
7. Schroeder & Trotter.....	Cedarburg.....	3
8. A. Bodendoerfer.....	Cedarburg.....	3
9. Heald & Reysen.....	Sheboygan Falls.....	2
10. J. S. Manning.....	Columbus.....	3
11. Wm. Albrecht & Co.....	Newburgh.....	2
12. Globe Milling Co.....	Watertown.....	13
13. J. D. Warren.....	Wauwatosa.....	3
14. Edw. Sanderson & Co.....	Milwaukee.....	40
15. John Schuette & Bro.....	Manitowoc.....	6
16. Wm. Gerlach & Co.....	Milwaukee.....	9
17. O. Puhlmann, (out of business, 3).....	Plymouth.....	3
18. Coleman, Jackson & Co.....	Centralia.....	4
19. Foot Bros. & Co.....	Oshkosh.....	3
20. A. C. Parfrey.....	Richland Center.....	3
21. Gilbert & Barber.....	Geneva.....	2
22. J. N. Foster & Co., (out of business, 3).....	Ripon.....	3
23. J. B. A. Kern & Son.....	Milwaukee.....	34
24. A. A. Freeman & Co.....	La Crosse.....	16
25. Gem Milling Co.....	Milwaukee.....	6
26. Robbins & Baltzell.....	Madison.....	2
27. Freeman & Stevens.....	River Falls.....	8
28. Stanford, Logan & Co.....	Black Earth.....	1
29. Voak Bros.....	Wilmot.....	14
30. Nunnemacher & Co., (out of business, 14).....	Milwaukee.....	14
31. Straubel & Ebeling.....	Green Bay.....	2
32. W. Seyk & Co.....	Keweenaw.....	4
33. Dow, Townsend & Co.....	Stoughton.....	4
34. Amos Phelps.....	Delevan.....	2
35. J. D. Putnam & Co.....	River Falls.....	3
36. Cooper & Cary.....	Wauwatosa.....	2
37. Comstock, Clark & Co.....	Hudson.....	11
38. George Sears.....	Shopiere.....	1
39. Coman & Morrison.....	Fox Lake.....	4
40. H. Kurtz, Jr.....	Poynette.....	3
41. E. Schraudenbach & Co., (burned, 3).....	Nashota.....	1
42. Paul Schneider.....	Merton.....	1
43. B. Stern.....	Milwaukee.....	3
44. C. W. Howard, (torn down, 3).....	Neenah.....	8
45. J. L. Clement & Son, (burned, 9).....	Neenah.....	9
46. Helmke & Orth.....	Erfurt.....	2
47. Johnson Bros. & Co.....	Boardman.....	5
48. Smith & Proctor, (torn down, 4).....	Neenah.....	4
49. Daisy Roller Mills.....	Milwaukee.....	13
50. J. O. Kendall & Co.....	Hartford.....	4
51. Jno. Howett.....	Waukesha.....	1
52. Stelling & Hackendahl.....	Pt. Washington.....	3
53. Willy & Co.....	Appleton.....	3
54. R. Hooper.....	Lake Mills.....	2
55. Allen & Treleven.....	Fond du Lac.....	2

3224

Of the above mills or firms represented, 4 mills, representing 19 units, are torn down, 3 mills, representing 22 units, have burned and not rebuilt, 3 firms, representing 20 units, have gone out of business.

MINNESOTA STATE MILLERS' ASSOCIATION.

1. Washburn Crosby & Co.....	Minneapolis.....	Capacity 157
2. A. W. Krech, successor to F. S. Hinkle.....	Minneapolis.....	7
3. H. F. Brown & Co.....	Minneapolis.....	6
4. Crocker, Fiske & Co.....	Minneapolis.....	14
5. D. R. Barber & Son.....	Minneapolis.....	15
6. Mazeppa Mill Co.....	Red Wing.....	19
7. La Grange Milling Co.....	Red Wing.....	24
8. Engle & Co.....	Austin.....	4
9. A. D. Ellsworth.....	Winona.....	4
10. Cannon River Mfg. Co.....	Northfield.....	6
11. Sacket & Fay.....	St. Peter.....	3
12. Geo. F. Strait & Co.....	Shakopee.....	6
13. Mathew Gregson.....	Austin.....	1
14. Conkey Bros.....	Preston.....	8
15. F. Arnold.....	St. Cloud.....	6
16. W. H. Officer.....	Austin.....	2
17. R. L. Frazee.....	Frazee City.....	6
18. Florence Mill Co., Stillwater Mills.....	Stillwater.....	11
19. Akermann Bros.....	Young America.....	3
20. Jennison Bros., successors to Stokes Bros. & Co.....	Janesville.....	4
21. L. C. Porter Milling Co.....	Winona.....	17
22. C. H. Payne & Co.....	Winnebago City.....	1
23. Chas. Espenschied.....	Hastings.....	14

24. Stamwitz & Shober.....	Minneapolis.....	Capacity 8
25. Pettit, Christian & Co., successors to J. A. Christian & Co.....	Minneapolis.....	34
26. Washburn Mill Co., successors to W. D. Washburn & Co., Palisade Mill.....	Minneapolis.....	32
27. Washburn Mill Co., successors to W. D. Washburn & Co., Lincoln Mill.....	Anoka.....	20
28. Cargill & Fall.....	Houston.....	6
29. Lyman Fondro.....	Rochester.....	1
30. C. A. Pillsbury & Co.....	Minneapolis.....	161
31. Richard Gregg & Co.....	Hastings.....	11
32. Morehead Mfg. Co.....	Morehead.....	4
33. Wm. Lindeke.....	St. Paul.....	1
34. John J. Fulkerson.....	Rochester.....	4
35. Andrew Friend.....	Garden City.....	1
36. Galaxy Mill Co., successors to Cahill, Fletcher & Co.....	Minneapolis.....	20
37. Frank Nicolini.....	Jordan.....	9
38. Hubbard & Co.....	Mankato.....	14
39. D. Morrison & Co., successors to E. V. White & Co.....	Minneapolis.....	30
40. Hinkle, Greenleaf & Co.....	Minneapolis.....	17
41. D. J. Tew.....	Rushford.....	2
42. Doran & Smith.....	La Sueur.....	4
43. Shaw & Ehlers.....	Litchfield.....	4
44. Jesse Ames & Son.....	Northfield.....	11
45. Christian Bros. Mill Co.....	Minneapolis.....	43
46. Columbia Mill Co.....	Minneapolis.....	29

MISSOURI STATE MILLERS' ASSOCIATION.

1. Geo. P. Plant & Co.....	St. Louis.....	Capacity 11
2. Victoria Mill Co.....	St. Louis.....	11
3. Camp Spring Mill.....	St. Louis.....	11
4. Saxony Mill Co.....	St. Louis.....	11
5. E. Goddard Sons' Flour Mill Co.....	St. Louis.....	13
6. Sessinghaus Mill Co.....	St. Louis.....	11
7. F. L. Johnson & Co.....	St. Louis.....	10
8. St. Mary's Mill Co.....	St. Mary.....	7
9. Carter, Shepherd & Co.....	Hannibal.....	8
10. Hannibal Mill Co.....	Hannibal.....	7
11. J. F. Lawton.....	Carrollton.....	3
12. Wagner & Gates Mill Co.....	Independence.....	8
13. Cowgill & Hill.....	Carthage.....	7
14. Morehouse & Higgins.....	Breckenridge.....	1
15. Columbia Mill Co.....	Columbia.....	4
16. Jas. Bannon.....	Clinton.....	5
17. M. W. Jarboe.....	Carrollton.....	2
18. J. C. Yantes.....	Fulton.....	3
19. J. B. Thro & Co.....	St. Charles.....	3
20. Rolla Mill Co.....	Rolla.....	10
21. Wm. Pollock & Co.....	Mexico.....	6
22. Simons Bros.....	Moberly.....	3
23. Boone County Star Mill Co.....	Rocheport.....	3
24. C. A. Smith.....	Lebanon.....	2
25. Sombart Milling Co.....	Boonville.....	6
26. Crane & Pearson.....	California.....	2
27. M. Jopling.....	Longwood.....	1
28. Zimmerman & Harter.....	Sedalia.....	4
29. Imperial Mill Co.....	Clarksville.....	6
30. S. H. Merten & Co.....	St. Charles.....	6
31. Harrison, Marr & Co.....	Glasgow.....	6
32. F. J. Schwegman.....	Washington.....	5
33. Pendell Bros. & Co.....	Hannibal.....	8
34. J. F. Roberts.....	Napoleon.....	1
35. J. R. Hamacher & Bro.....	Richmond.....	2
36. O. H. Corbin.....	Liberty.....	1
37. Pollock, Holmes & Co.....	Slater.....	3
38. D. Kunkle & Son.....	Oregon.....	1
39. Bakehouse, Buchanan & Co.....	New London.....	2
40. H. B. Eggers & Co.....	St. Louis.....	5

OHIO STATE MILLERS' ASSOCIATION.

1. F. Schumacher.....	Akron.....	Capacity 10
2. Hicks, Brown & Co.....	Mansfield.....	54
3. Barney, De Moss & Co.....	Roscoe.....	54
4. Homer Baldwin.....	Youngstown.....	10
5. Colton Bros.....	Bellefontaine.....	6
6. A. R. Elson.....	Magnolia.....	3
7. A. A. Taylor.....	Londonville.....	10
8. Fungeson & Rife.....	Cadiz.....	3
9. Dirks, Jenvey & Co.....	Marietta.....	5

PENNSYLVANIA STATE MILLERS' ASSOCIATION.

1. C. Heebner (dead).....	Norristown.....	Capacity 1
2. Hayes & Co.....	Lock Haven.....	14
3. P. A. & S. Small.....	York.....	10
4. Levan & Sons.....	Lancaster.....	2
5. Marshall, Kennedy & Co.....	Pittsburgh.....	17
6. G. H. Welles.....	Wyalusing.....	1
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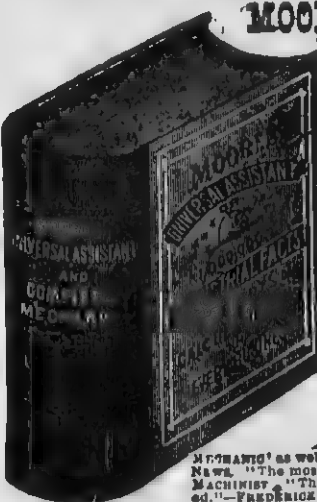
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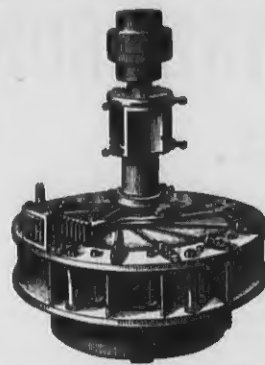
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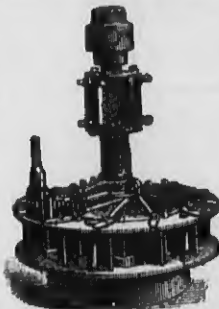
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